

ADVT. for Re-Tender Notice

Institute Website

CENTER FOR HEALTHCARE SCIENCE & TECHNOLOGY

Indian Institute of Engineering Science and Technology, Shibpur; Howrah-711103

Re-Tender Advt. No: NO/D(AA)/16/60

Dated: 03.11.2016

Sealed tenders are invited by the Centre for Healthcare Science & Technology, Indian Institute of Engineering Science and Technology, Shibpur, Howrah-711103 for the supply of laboratory items/works.

Tender Documents containing details of the items and terms and conditions may be downloaded from the university website and completed bidding documents are to be submitted to the **Head, Centre for Healthcare Science & Technology, Indian Institute of Engineering Science and Technology, Shibpur; Howrah-711103** or dropped into the Tender Box kept in the Center **within 18.11.2016**.

Enclosed: **Section- I: General conditions and Important Instructions for Bidders.**

Section-II: Specification of the Items.

Prof. Amit Roy Chowdhury

Head,

Centre for Healthcare Science and Technology

SECTION-I: General Conditions and Important Instructions for Bidders

1. Interested parties/vendors are to download the tender documents with detailed specifications from the institute website (www.iiests.ac.in)
2. It is necessary to submit the original tender documents along with technical/price bids in sealed envelopes to the **Head, Centre for Healthcare Science and Technology (CHST), Indian Institute of Engineering Science and Technology (IEST), Shibpur; Howrah-711103**, or directly to **Drop** in the **Tender Box** kept in the Centre at the 2nd floor of Heaton Hall building (above Hospital and UBI, BESUS branch)
3. Bids are to be submitted in sealed envelope superscribed with “**Tender Advt. No.**” along with the bidders name and address. Bid envelope should contain the Technical Bid and Commercial Bid in separate sealed envelopes inside.
4. Bidders are to abide by the terms and condition and submit this tender document in original duly signed with acceptance of the terms and conditions.
5. Last date of receipt of tender is **18.11.2016 to 3.00 pm**. Tenders received late will not be accepted under any circumstances. Tenders will be opened in the Office of the Head of the Centre for Healthcare Science and Technology, on the same day at 3.30 pm. In case the University remains closed on the said date, tenders will be opened on next working day at 3.00 pm.
6. The Price Bid should clearly mention the price including the following:
 - Delivery charges up to IEST, Shibpur, Howrah, including loading and unloading charges.
 - All taxes, duties, levies applicable.
 - Erection, Commissioning and testing charges at IEST, Shibpur site
7. DGS&D rate contract price will be preferred wherever applicable. The University will not issue any C or D form availing for concessional Sales Tax/ VAT. The University will issue Customs Duty Exemption Certificate or Excise Duty Exemption Certificate for foreign purchase, if required.
8. The equipment are to be supplied at the Centre for Healthcare Science and Technology, Indian Institute of Engineering Science and Technology between 11.00 am and 4.00 pm from Monday to Friday except holidays. The bidders will be responsible for any breakage, damage or defect in the equipment detected subsequently.
9. Period of delivery of equipment/ execution of work should be within 6 to 10 weeks from the date of issue of Purchase Order. If the supply/execution is not completed within the stipulated period as indicated in the Purchase Order a Liquidated Damage @0.5% per week will be imposed on the value of purchase order subject to maximum of 5% of the value of work order.
10. Bills in triplicate should be presented for payment within 15 days of supply/ commissioning of work. No advance is paid for execution of the order. The Order No. is to be noted on both Challan and Bill. All bills are to be accompanied by order copies and Challan receipt.
11. Payment will be made on submission of Proper Bills, Challans etc, by A/C Payee Cheque and no cash payment will be made under any circumstances.

12. All payments are subjected to statutory deductions as and when applicable.
13. Tender is to be kept valid for acceptance for 3 months with effect from the last date of issue of the tender without any modifications in its terms and conditions.
14. Documents mandatory to be submitted with the tender:
 - Tender Documents, General Conditions and Important Instruction in original duly signed by the Proprietor/ Partner/ Director of the company as a token of acceptance of Terms and Conditions of Tender.
 - OEM certificate/Authorization letter from manufacturer in the name of the Head, CHST; IEST, Shibpur against this tender enquiry only/ UCAS/CE/ISO or other international certification, if applicable.
 - Latest Income Tax, Sales Tax, Professional Tax clearance certificates and copy of valid Trade License
 - Bid according to specifications.
 - Certificates and Literature in support of the item.
16. For all equipments the comprehensive warranty period must be mentioned. Calibration/ Test Certificate must accompany along with the equipment. Supply of equipment shall include installation, erection, commissioning and demonstration. Indian Institute of Engineering Science and Technology, Shibpur, Howrah reserves the right to accept/ reject all or any of the bidders without assigning any reason whatsoever.

I/We accept the above terms and conditions.

Signature of vendors with date & Seal

Name of items	Specifications
2. Impedance Analyzer	1MHz to 1.3GHz Measurement Frequency Impedance Analyzer with 0.5ms Test Speed and 0.07% Variability • Z , L, C, R testing • Testing source frequency: 1 MHz to 5MHz • Measuring time: 0.5 ms • Measured value variability : 0.07% • Measure LCR and conduct frequency sweeps simultaneously
4. Universal Testing Machine	<ul style="list-style-type: none"> • Single column load frame with min. 5kN capacity • Table Top Model • Force Measurement Accuracy NLT 0.5% of applied force • Crosshead Speed range 0.001 to 1500 mm/min min up to 1kN • Crosshead Speed range 0.001 to 500 mm/min min up to 5kN • Set speed resolution approx 0.001 mm/min • Crosshead Speed accuracy nlt 0.005% of set speed • Crosshead Stroke measurement resolution 0.0001 mm min. • Extension accuracy 0.001 mm min • Maximum cross head travel excluding grips - 750mm • Max. Sample dia. 200mm • Four Quadrant precision motor controller, preferable • Zeroing of Load & Displacement by pressing single click • Automatic specimen breakage detection with automatic stop & crosshead return • Fully automatic machine control through computer • Force measurement conform to EN10002-2, ASTM E4, DIN 51221 • Frame is factory proof tested for strength & stability to 10KN • Dimensions approx– 1100 mm, 500 mm , depth 450 mm • Communication Between the testing machine and computer via RS 232 using ASCII mode and super high speed binary mode or other equivalent • System installation & basic operator training including instruction on set-up procedures, test methods, calibration & test result generation. • Conforms to CE directives <ul style="list-style-type: none"> • LOAD CELL • Z Beam Construction conforms to EN10002-2, ASTM E4, DIN 51221 • Range: 2% to 100% • Accuracy: 0.5% of applied force • Resolution: 1 part in 64000 • Extended Range down to 1% • Automatic identification of Load Cell • Load Cell protection system <p>Optional Accessories:</p> <p>Different load cells and gripper attachments especially for biomedical testing like stents, contact lens etc should be quoted.</p> <p>Fluid Bath (temperature controlled) with External Re-circulating Reservoir -</p>
	Include Control Box, Re-circulating temperature controlled bath, base

	<p>fitting 5/8" (M) inside bath and 5/8" (M) upper tie rod.</p> <ul style="list-style-type: none"> • Library of more than 1000 test routines as per Various test standards (ASTM, DIN, ISO, JIS) • Recalculation of results • Graphical features with color code, curve overlay, curve analysis with moving cursor, multiple zoom on curve, rescale & redraw graph Multi language • Post test analysis • Suspend test function to protect against power failure or interruption during testing • Auto system check before testing • Plot of Histogram, SPC, Regression chart • Generate test routine as per user requirement • Report wizard to design report format • Substitute over original results • Analyze curve data • Curve Overlay • Curve Offset • Zoom on curve • Pass fail limits • Operator password protection • Easy to read ICON tool bar • Graph annotation • Moving cursor on test curve • Auto scaling • Input of test data, specimen dimensions, unit select etc. • Saving of test parameters for fast future recall • Results tables and statistical analysis • Results & Curve save and retrieval <p>Suitable PC, printer and UPS. Data saved in Windows™ MS format</p>
<p>6. Electrochemical Impedance Analyzer</p>	<ul style="list-style-type: none"> • Voltage control (potentiostat mode) <ul style="list-style-type: none"> ➤ Applied voltage range: 10V ➤ Resolution: 300μV ➤ Accuracy: 1mV approx. ➤ Maximum scan rate: 10kV/s (10mV step) ➤ Maximum scan range: ±10V/300μV • Current control (galvanostat mode) <ul style="list-style-type: none"> ➤ Applied current range: (upgradable) ±4A ➤ Resolution: ±1/32,000 x full scale ➤ Accuracy: ±2pA ➤ Maximum scan rate: ±4A / 123μA ➤ Maximum scan range: ±40pA/1.2 fA • Impedance (EIS) <ul style="list-style-type: none"> ➤ Frequency range: 10μHz - 10 MHz. ➤ Minimum ac voltage amplitude 0.1mV RMS ➤ Sweep: Linear or logarithmic • Electrometer <ul style="list-style-type: none"> ➤ Max. input range: ±10V ➤ Bandwidth : ≥10MHz <p>➤ Input Impedance: ≥10¹¹ in parallel with ≤2pF</p>

	<ul style="list-style-type: none"> ➤ Leakage current: $\leq 2\text{pA}$ ➤ CMRR: 60 dB at 100kHz • PC/Software (lifetime upgradable pref.) ➤ Communications Interface: Universal Serial Bus (USB) ➤ Operating System: Windows XP/ Windows 8 (64 and 32 bit), Windows 7 (64 and 32 bit) ➤ Software: VersaStudio Developers Kit <p>Reference electrode Ag/AgCl; working 2mm Pt, 50 ml min. cell vol., purging facility.</p>
<p>8. Spectrum Analyzer</p>	<ul style="list-style-type: none"> • 9 kHz to 3.0/7.5 GHz frequency range covers a broad range of analysis needs • 40 MHz acquisition bandwidth enables real time analysis for transient capture and vector analysis • Standard GPS/GLONASS/Beidou receiver for mapping • Optional tracking generator for gain/loss, antenna and cable measurements • Streaming capture can be used to record and play back long term events • Mil-Std 28800 Class 2 environmental, shock and vibration specifications for use in harsh conditions • Internal battery for extended field operations • SignalVu-PC software offers real time signal processing with DPX Spectrum/Spectrogram to minimize time spent on transient and interference hunting • 100 μsec minimum signal duration with 100% probability of intercept ensure you see problems first time, every time • Application programming interface included for development of custom programs • Accessories including tablet PC, calibration kits, adapters and phase-stable cables offer a complete field solution for interference hunting and transmitter maintenance <p>Applications</p> <ul style="list-style-type: none"> • Spectrum management • Interference hunting • Maintenance, installation and repair of radio networks <p>Measurements and functions included in SignalVu-PC base version Including PC, Softwares etc.</p>
<p>12. Viscometer</p>	<ul style="list-style-type: none"> • Programme based Viscometer • Digital display with continuous sensing and display the information like viscosity (cP or MPa.s), Temperature (degree C or degree F), % Torque, Speed, Spindle used, Shear rate, Shear stress. • Determination of viscosity in less amount of sample • Available with Temperature probe • Timed stop feature to measure viscosity at precise user specified time intervals • Easy to use key pad • Temperature Sensing Range: - 10 to 100 • Viscosity Accuracy: $\pm 1.0\%$ of full scale range • Viscosity Repeatability: $\pm 0.2\%$

	<ul style="list-style-type: none"> • Temperature Accuracy: $\pm 1^{\circ}\text{C}$ /-100$^{\circ}\text{C}$ to +149$^{\circ}\text{C}$ and $\pm 2^{\circ}\text{C}$ /+150$^{\circ}\text{C}$ to +300$^{\circ}\text{C}$
13. Recorder	<p>Features</p> <ul style="list-style-type: none"> - Able to perform tests within 2 mins without patient fasting or sample collection - Should be able to investigate sudomotor function - Should be Non Invasive in nature - Should be able to screen cardio-metabolic risk by measuring Electro Chemical Sweat Conductance - Quantitative results should be immediately available - Proven Clinical results with Sensitivity & Specificity of 92% & 86% respectively better than conventional methods like FPG, OGTT <p>Specifications</p> <p>CHARACTERISTICS OF ACQUISITION Atleast 80Gb Hard disk with No Compression Mode Frequency of Acquisition 100Hz or better Minimum Resolution should be 0.025 microampere</p> <p>ELECTRICAL CHARACTERISTICS Measurement Voltage 1V to +4V DC Frequency 0Hz DC Dynamic Resolution 10bits or better Power Input 110V / 220 V +/- 3% variation with 50Hz/60Hz freq Electronic Power Supply 5V +/- 0.25V , < 300mA (with power Supply in conformity with EN69950-1)</p> <p>SEALING Index of protection IP41</p> <p>MECHANICAL Weight of Master Unit plus electrodes <20kg Dimension 55 X 50 X 50 or smaller</p> <p>STORAGE AND CONDITIONS OF USE Operating 0 to 45C with 10% to 95% moisture 700 to 1060 hPa without condensation</p> <p>TESTS & COMPLIANCE Immunity Test as per IEC 61000-4-2 Transient Fast Electric Cut IEC 61000-4-4 Overvoltage IEC 61000-4-5 Voltage Drops IEC 61000-4-11 Electrical frequency IEC 61000-4-8 USFDA Approved and CE marked</p>